COMBINED WMA CONTRACT:

Mini-Research and Research Projects

January 1, 2011-December 31, 2011

Contract Contact:
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Project Contacts:
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Part I: WMA Mini-Grant Research Project Proposal

Project Lead(s) for project and contract reporting and invoicing:
Glenn Nader, University of California Cooperative Extension, Livestock and Natural Resources Advisor, 142-A Garden Hwy, Yuba City, Ca. 95946, 530.822.7515, ganader@ucdavis.edu

This project is in affiliation with what WMA group or groups?
Yuba and Sutter Counties WMA

List what other Noxious and Invasive Weed Research has been conducted by you or your group:
Mowing for Control of Starthistle
Burning and Transline treatment of Starthistle
Milestone control of Medusahead

Proposed Project(s)

Project Title:
Controlling Smutgrass Invasions on Irrigated Pastures

Project Goal (1/2 page max)
The development of control strategies for smutgrass (*Sporobolus indicus* var. *pyramidalis*) invasion on irrigated pastures. A project has been funded this winter by DuPont to study Velpar control of smutgrass. If this study of glyphosate control of smutgrass is funded, it will provide a second possible control strategy. Monsanto was sent a proposal to cover the work of this request. They stated that due to the present economic conditions they stated that they could not fund the project. DuPont was not interested in funding work on competing herbicides.

What are the project's long-term benefits and/or local, regional or statewide significance (8 sentence Max):
Smutgrass is rapidly invading irrigated pastures of the Sacramento valley region within the last five years. It is now starting to be found in San Joaquin valley. Livestock will not graze smutgrass and the loss of pasture productivity has been estimated to range as high as 70%, making infested pastures no longer a viable agriculture operation. Presently, there are no established control methods smutgrass in California. A total of 1.1 million acres of irrigated pasture in California were listed in the County Agricultural Commissioner's Annual Reports for 1983, as compiled by the California Crop and Livestock Reporting Service.

Priority Topic Area Being Addressed (from request for proposal announcement, 8 sentence Max):

2. Little to No Management Research Conducted to Date**.**
Smutgrass has been present in the southern US for an extended period of time. Florida Extension Service recommends glyphosate application with active wipers during early flowering for control. The differential height of the ungrazed smutgrass allows it to be targeted by wiper application. However, Florida has a different climate condition compared to California, and consists of grasses and legumes species very different from our irrigated pastures. Glyphosate is approved for use on pastures in California. This proposal is for demonstration plots on smutgrass control in an infected pasture.

Please Describe your in-kind contributions toward research project(s) (4 sentence max):
Use of University and Sutter/Yuba County Farm Advisor equipment (truck and electric fence material to meet grazing restriction requirements). Farm Advisor time to fence, monitor, and coordinate the project.

Project Objectives, Tasks and Methods

OVERALL OBJECTIVE (4 sentence Max):
Use of two different active type wipers; to study application design along with control of smutgrass with glyphosate.

Task 1 (2 sentence Max):
Applications of glyphosate on smutgrass plots

Methods (8 sentence Max)-
The treatments will use an active type wiper to study application design along with timing. Application treatments will include three rates (0, 15, and 50%) with four timings for a total of 48 plots (July, Aug, Sept). This will be replicated three times, creating 18 separate plots. Each of the three replications will fill an entire irrigation check of approximately 360 feet long. The treated areas will meet the 21 day post treatment label grazing restriction requirement by the use of electric fence to keep the cows out of the plot while grazing the rest of the pasture.

Task 2 (2 sentence Max):
Plot visual evaluation and rating for % control

Methods (8 sentence Max)-
Smutgrass control will be visually evaluated (comparing pre and post application plant populations) in the plot on Nov 2010 and June 2011. The data will be analyzed using statistical analysis software (SAS) for significant difference between treatments.

Performance Measures

How will you assess and/or analyze your results (8 sentence Max)?
Visual rating of each plot for percent plant control by each dose rate.

How will your results be disseminated (4 sentence Max)?

The information will be disseminated by Farm Advisor and WMA newsletters, notice to affected Agricultural Commissioners, Cattlemen meetings, and Trade publications (California Cattlemen's magazine, Ag Alert, and California Farmer).

Part II: WMA Research Proposal